

ENGINEERING TECHNICIAN I
ENGINEERING TECHNICIAN II
ENGINEERING TECHNICIAN III

Class No. 003814
Class No. 003813
Class No. 003812

DEFINITION:

To perform technical, paraprofessional engineering work in connection with inspection, design, construction, and maintenance of engineering projects and records in office, laboratory or field settings; and to perform related work.

DISTINGUISHING CHARACTERISTICS:

Engineering Technician is a technical class series that performs paraprofessional engineering support work for engineers, surveyors or program managers in the inspection, design, construction and maintenance of engineering projects and records in office, laboratory, or field settings. Positions in these classes are allocated a variety of departments, but are primarily found in the Department of Public Works, General Services, and Planning and Land Use.

Engineering Technician I: This is the first working level of the Engineering Technician class series. Under general supervision, incumbents perform routine and standardized paraprofessional engineering oriented work in the field, laboratory or office involving limited discretion in the selection or adaptation of standard procedures or equipment.

Engineering Technician II: This is the journey level class in the Engineering Technician series. Under general supervision, incumbents perform a wide variety of paraprofessional engineering work that requires a substantial degree of independent performance in field, laboratory or office settings and involves the selection or adaptation of standard procedures or equipment. Positions in this class report to a variety of classes such as Engineering Technician III, professional engineers, surveyors, or program managers.

Engineering Technician III: This is the highest class in the Engineering Technician series. Under general supervision, incumbents are technical supervisors over subordinate engineering technicians and/or perform the most difficult paraprofessional technical engineering work under the direction of professional engineers.

EXAMPLES OF DUTIES:

Operates surveying instruments in the field; assists in the performance of engineering, land, topographic and control surveys; prepares and reduces field notes, plots sketches, maps, plans, legal descriptions, street light layouts from field notes or other reference material; makes engineering and surveying calculations; investigates land improvement projects, drainage and sewer systems; assists in the preparation of contracts, contract plans and specifications employing varying techniques and equipment; prepares quantity lists, computes progress estimates and progress payments; maintains contract files; performs general office engineering related work such as handling inquiries for information and complaints; issues road and sewer related permits; performs research and maintains engineering, surveying, correspondence and legal records; types simple forms; may perform field inspection of construction projects for adherence to standards.

Engineering Technician III:

All of the duties above and: May act as resident engineer inspector at the site of a moderately difficult construction project or as assistant on a large complex project; performs comprehensive inspections of construction operations involving procedures and methods of construction in the planning, layout and construction phases; oversees the activities of field crews engaged in establishing grades, property lines and elevations; prepares estimates for payments to contractors; prepares technical and engineering reports in connection with building construction projects; performs field

and laboratory tests involving inspection and classification of materials and structural elements for conformance to specific plans and specifications; supervises field parties in traffic engineering studies; makes statistical surveys of traffic use and develops forecasts for future needs and facilities; prepares, reviews, and checks ordinary designs, plans, drawings, and cost estimates for a variety of construction, reconstruction, and maintenance projects; assists in the analysis of difficult engineering calculations, drawings, specifications and estimates in connection with structural design for the construction of roads, streets, highways, transportation and sanitation systems, and other public works improvement construction projects; examines, checks and analyzes subdivision maps, parcel maps and records of survey to insure completeness and accuracy in accordance with laws, regulations and ordinance; prepares and checks right-of-way plans and maps, legal descriptions, deeds and exhibits for all phases of acquisition, sale or lease of real property; researches title and easement information; prepares reports; testifies in court in condemnation matters, as needed.

MINIMUM QUALIFICATIONS:

Knowledge Level: T = Thorough; G = General; -- = Not Applicable

Classification Level: I = Engineering Technician I
II = Engineering Technician II
III = Engineering Technician III

Knowledge of:

I II III

G	G	G	Legal documents and maps used in transfer of ownership of real property, identification of right-of-way, property lines, etc.
G	G	G	Modern drafting methods and tools.
G	G	G	Condemnation proceedings.
--	G	G	Administrative requirements related to the public works field, such as contracts, permits and records.
G	G	G	Construction projects such as roads, parks, airports and utility lines.
G	G	T	Trigonometry, geometry and fundamentals of mathematics to perform engineering calculations.
G	G	T	Engineering and surveying terminology.
G	G	T	Fundamentals of engineering and land surveying in field and office settings.
G	G	T	Methods, materials, and equipment used in public works construction, surveying and planning of such construction.
G	G	T	Reading and interpreting general engineering plans, legal descriptions and maps.
--	--	G	Principles of supervision.

Skills and Abilities to:

The following apply to all classes:

- Read and interpret fundamental engineering details, plans, maps, legal descriptions, estimates and computations.
- Extract engineering data from various sources including computers, and process or compute such data using specified formulas and procedures including computer applications.
- Develop and prepare technical reports.
- Keep written and computer records and logs.
- Communicate effectively in English, both written and orally.
- Establish and maintain cooperative working relations with those contacted during the course of work.

Engineering Technician III (in addition to the above):

- Assign, train, direct, review and evaluate the work of subordinates.
- Perform the most difficult paraprofessional engineering work.
- Prioritize requests, work and schedules to meet deadlines and effectively utilize project resources.

EDUCATION/EXPERIENCE:

Education, training, and/or experience which would likely demonstrate the knowledge, skills and abilities stated above. Examples of qualifying education/experience are:

Engineering Technician I:

1. Two (2) years paraprofessional engineering experience performing one or more of the following: materials testing; field surveying; data collection and analysis; drafting and statistical computations for design and public works projects; subdivision and parcel map checking and/or real property engineering involving legal descriptions, drafting and research; OR,
2. Two (2) years of college level course work in engineering; OR,
3. Any combination of education and experience which equals two (2) years.

Engineering Technician II:

1. One (1) year as an Engineering Technician I in the County of San Diego; OR,
2. Three (3) years paraprofessional engineering experience performing one or more of the following: construction inspection; materials testing; field surveying; traffic data collection and analysis; drafting and statistical computations for design and public works projects; subdivision, parcel map and records of survey checking; and/or real property engineering involving legal descriptions, drafting and research. Two (2) years of this experience must have been at a level comparable to Engineering Technician I in the County of San Diego; OR,
3. Three (3) years of college level course work in engineering; OR,
4. Any combination of education and experience which equals three (3) years.

Engineering Technician III:

1. One (1) year as an Engineering Technician II in the County of San Diego; OR,
2. Four (4) years paraprofessional engineering experience performing one or more of the following: construction inspection; materials testing; field surveying; traffic data collection and analysis; drafting and statistical computations for design and public works projects; subdivision, parcel map and records of survey checking; and/or real property engineering involving legal descriptions, drafting and research. Two (2) years of this experience must have been at a level comparable to Engineering Technician II in the County of San Diego; OR,
3. Four (4) years of college level course work in engineering; OR,
4. Any combination of education and experience which equals four (4) years.

Note: Thirty (30) college semester units in engineering is considered equivalent to one (1) year of work experience.

SPECIAL NOTES, LICENSES, OR REQUIREMENTS:**License:**

A valid California Class C driver's license is required at time of appointment or the ability to arrange transportation for field travel. Employees in this class may be required to use their own personal vehicle.